

NOVEMBER/DECEMBER 2024

**CBC51/FBC51 — ENZYMES AND  
INTERMEDIARY METABOLISM**

Time : Three hours

Maximum : 75 marks



SECTION A — (10 × 2 = 20 marks)

Answer ALL the questions.

1. What are the different classes of enzymes?
2. Note the components of holoenzyme.
3. Name a catabolic pathway in carbohydrate metabolism.
4. Show the number of ATPs generated from TCA cycle.
5. What is the end product of oxidation of fatty acid with C16?
6. Outline the structure of phospholipid.
7. Define deamination.



8. Outline the role of SGOT in protein metabolism.
9. Recall the names and structures of pyrimidines.
10. Show the source of carbon for nucleotide synthesis.

SECTION B — (5 × 5 = 25 marks)

Answer ALL questions.

11. (a) Explain in brief the existing theories to explain the mechanism of enzyme action.

Or

- (b) Examine the types of enzymes inhibitions.

12. (a) Identify the role of high energy compounds in metabolism.

Or

- (b) Examine the Significance of TCA.

13. (a) Identify the steps in the biosynthesis of saturated fatty acids.

Or

- (b) Examine the pathway and significance of ketogenesis.

14. (a) Identify the role of glutamate dehydrogenase in amino acids metabolism.

Or

- (b) Examine the steps in the biosynthesis of creatinine.

15. (a) Identify the sources of nitrogen and carbon atoms in nucleotide metabolism.

Or

- (b) Examine the degradation of pyrimidine nucleotides.

SECTION C — (3 × 10 = 30 marks)

Answer any THREE questions.

16. Assess the factors that affect the activity of enzymes.
17. Compare glycogenesis and glycogenolysis.
18. Explain the biosynthesis of cholesterol. How is it regulated?
19. Elaborate on the decarboxylation pathway used in the degradation of proteins.
20. Discuss the metabolism of purines.

